



QUARTERLY GROUNDWATER MONITORING REPORT

Third Quarter 2005 (Thirteenth Quarterly)

Sampled on July 21, 2005

Job # SP-500

LOP # 12660

BO&T Company Office (BO & T Old Office)

211 Railroad Avenue

Blue Lake, California 95525

October 20, 2005

This *Quarterly Groundwater Monitoring Report* was prepared by SounPacific Environmental Services (SounPacific) staff for David and Christina Fisch, and includes data from previous studies conducted by Clearwater Group, Inc. (CGI) and information from a review of relevant file conducted at Humboldt County Department of Health and Human Services: Division of Environmental Health (HCDEH). The site is located at 211 Railroad Avenue, Blue Lake, California (Figure 1).

SITE DESCRIPTION

The site is surfaced around the current structure with concrete and vegetation. Site improvements include a single story building. The main structure is positioned in the southern portion of the property with the entrance to the building facing south towards Railroad Avenue. A storage building is located adjacent to the eastern property line immediately north of the primary building (Figure 2). The site is serviced by public utilities. Surface water is controlled by storm drains.

SITE TOPOGRAPHY AND LAND USE

SounPacific understands that the property is owned by David and Christina Fisch of Valley Springs, California. The main structure is currently used as an office for Fisch Environmental. The surrounding land use in the immediate vicinity is residential with an interspersed commercial properties. Residential properties lie to the north, east, south, and west of the site. The site is located approximately 90 feet above mean sea level (amsl). The Mad River is located approximately one half mile to the south and Powers Creek is located approximately one-quarter mile to the east of the site. The City of Blue Lake is situated on the Mad River flood plain. Site topography slopes gently toward the southwest (Figure 1).

RESULTS OF QUARTERLY SAMPLING

A quarterly groundwater monitoring program was implemented by SounPacific on July 15, 2002, and is currently scheduled to continue until further notice. The program initially consisted of recording monthly water level data for one (1) year and collecting quarterly groundwater samples for laboratory analysis. Since April 2003, groundwater level measurements have been conducted on a quarterly basis. Water level data is used to determine groundwater gradient and average flow direction using standard three-point calculations. Analytical results from groundwater samples collected from the monitoring wells during quarterly sampling events have indicated that the groundwater beneath the site is impacted with petroleum hydrocarbons. This report presents the results of the gauging and sampling of the site's monitoring wells on July 21, 2005.

FIELD DATA

Wells gauged:	MW-1, 2, and 3
Groundwater:	Ranged from 84.43 to 85.80 feet above mean sea level (Table 1)
Floating product:	Sheen detected in all wells
GW flow direction:	W (Figure 3)
GW gradient:	0.03 feet per foot (ft/ft) (Figure 3)

On July 21, 2005, the depth to groundwater in the site's three (3) monitoring wells ranged from 5.40 feet below top of casing (btoc) in well MW-2 to 5.94 feet btoc in MW-3. When corrected to mean sea-level, water level elevations ranged from 84.43 feet amsl in MW-3 to 85.80 feet amsl in MW-2. Groundwater levels for the July 21, 2005 monitoring event, along with historical level and elevations are included in Table 1. Groundwater flow was towards the west at a gradient of 0.03 feet per foot. The groundwater flow and gradient are graphically depicted in Figure 3. Prior to sampling, all wells were purged; the groundwater field parameters for each well are presented below.

MONITORING WELL MW-1 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
1:49 p	0	6.72	63.74	0.480
1:53	1.38	6.72	61.42	0.466
1:57	2.76	6.64	61.15	0.461
2:00	4.14	6.62	61.12	0.455

MONITORING WELL MW-2 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
2:04 p	0	6.77	64.50	0.334
2:12	1.42	6.79	63.58	0.298
2:17	2.84	6.82	63.37	0.265
2:21	4.26	6.82	62.90	0.299

MONITORING WELL MW-3 GROUNDWATER FIELD PARAMETERS

Time	Total Vol. Removed/ gal	pH	Temp./ F	Cond./ ms(cm)⁻¹
2:34 p	0	6.79	61.40	0.548
2:45	1.36	6.76	60.81	0.622
2:50	2.72	6.76	61.25	0.498
2:56	4.08	6.72	61.17	0.524

ANALYTICAL RESULTS

Sampling locations: MW-1, 2, and 3
Analyses performed: TPHg, BTXE, MTBE, DIPE, TAME, ETBE, and TBA
Laboratories Used: Basic Labs, Redding, California

The analytical results for the current monitoring event are presented below and graphically depicted in Figure 4. The laboratory report is included as Appendix A. The historical analytical results for all monitoring wells, since the implementation of groundwater monitoring are included as Table 2.

	<u>MW-1</u>	<u>MW-2</u>	<u>MW-3</u>
	ppb	ppb	ppb
TPHg:	366	1,410	9,050
Benzene:	ND < 1.2	8.9	ND < 62.5
Toluene:	ND < 1.2	ND < 5.0	ND < 62.5
Xylenes:	ND < 2.5	ND < 10.0	ND < 125
Ethylbenzene:	ND < 1.2	ND < 5.0	ND < 62.5
MTBE:	408	1,650	11,100
DIPE:	ND < 1.2	ND < 5.0	ND < 62.5
TAME:	ND < 1.2	16.0	65.0
ETBE:	ND < 1.2	ND < 5.0	ND < 62.5
TBA:	ND < 125	ND < 500	ND < 6,250

ND = non-detectable

COMMENTS AND RECOMMENDATIONS

On July 21, 2005 the 13th groundwater monitoring event for the three (3) on-site monitoring wells was conducted at the BO&T Old Office at 211 Railroad Avenue in Blue Lake, California. A summary of the results are presented below.

- The depth to groundwater in the three (3) on-site wells ranged from 5.40 feet bgs (MW-2) to 5.94 feet bgs (MW-3). Groundwater flow was towards the west at a gradient of 0.03 feet per foot. This flow direction and gradient is consistent with previous monitoring events.
- Groundwater samples from the three (3) on-site monitoring wells were collected and analyzed for TPHg, BTXE, MTBE, DIPE, TAME, ETBE, and TBA. Laboratory results reported TPHg in all three (3) wells at concentrations ranging between 366 ppb (MW-1) and 9,050 ppb (MW-3). Of the BTXE components, only benzene was reported at a concentration of 8.9 ppb in monitoring well MW-2. MTBE was reported in all wells at concentrations that ranged between 408 ppb (MW-1) and 11,100 ppb (MW-3), and TAME was reported in MW-2 at 16 ppb and in MW-3 at 65 ppb..

Based upon these results the following observations and conclusions have been made.

- TPHg was detected at the highest concentration in well MW-1 since the inception of the monitoring. Laboratory results have detected TPHg in wells MW-2 and MW-3 in all but two sampling events since the inception of the monitoring program. During the recent monitoring event, TPHg concentrations in MW-2 indicated a significant increase when compared to previous monitoring events; and in MW-3, after the spike of the last quarter, the concentrations returned to levels consistent with levels recorded during the previous year. See Figures 5-7.
- BTXE compounds have never been detected in well MW-1. Benzene has consistently been reported in well MW-2, since the inception of the monitoring program. Xylenes

and ethylbenzene were consistently reported in MW-2 during the three (3) initial sampling events, but have been inconsistent since the first quarter 2003. Toluene, xylenes, and ethylbenzene were detected in MW-3 during the second quarter 2005 at high levels. See Figures 5-7.

- MTBE has been reported in every well during every sampling event thus far, with the highest concentrations reported in well MW-3. MTBE was reported at the highest concentration thus far in MW-1 during the third quarter 2005. Concentrations have fluctuated in wells MW-1 and MW-2, whereas in well MW-3, concentrations have generally decreased. See Figures 5-7.

Based on the results of the July 2005 monitoring event, historical results, and other ongoing activities, the following future activities are proposed.

- Quarterly groundwater sampling will be continued until further notice. Quarterly groundwater level measurements will be collected from the three (3) on-site monitoring wells to determine groundwater flow direction and gradient. Collected groundwater samples will be analyzed for TPHg, BTXE, and five fuel-oxygenates.
- SounPacific is currently preparing a workplan for additional subsurface investigation downgradient of the site and an interim remedial action plan as requested in the letter dated August 31, 2005, from HCDEH.

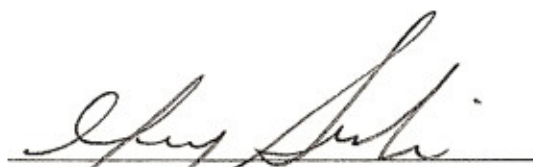
CERTIFICATION

This report was prepared under the direct supervision of a California registered geologist at SounPacific. All information provided in this report including statements, conclusions and recommendations are based solely upon field observations and analyses performed by a state-certified laboratory. SounPacific is not responsible for laboratory errors.

SounPacific promises to perform all its work in a manner that is currently used by members in similar professions working in the same geographic area. SounPacific will do whatever is reasonable to ensure that data collection is accurate. Please note however, that rain, buried utilities, and other factors can influence groundwater depths, directions and other factors beyond what SounPacific could reasonably determine.

SounPacific

Prepared by:



Greg Sounhein, REA # 07994

Project Manager



Reviewed by:



Michael Sellens, RG # 4714, REA # 07890

Principal Geologist



ATTACHMENTS

TABLES & CHART

Table 1: Water Levels

Table 2: Groundwater Analytical Results

Chart 1: Hydrograph

FIGURES

Figure 1: Aerial/Topo Map

Figure 2: Site Plan

Figure 3: Groundwater Gradient Map July 2005

Figure 4: Groundwater Analytical Results

Figure 5: MW-1 Hydrocarbon Concentrations vs. Time

Figure 6: MW-2 Hydrocarbon Concentrations vs. Time

Figure 7: MW-3 Hydrocarbon Concentrations vs. Time

APPENDICES

Appendix A: Laboratory Report and Chain-of-Custody Form

Appendix B: Standard Operating Procedures

Appendix C: Field Notes

Tables & Chart

Table 1
Water Levels
BO and T Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation/ Feet Above MSL	Thickness of Floating Product/ Feet
MW-1	5/19/2002	14.19	90.50	5.52	84.98	0.00
	6/16/2002	14.21	90.50	6.35	84.15	0.00
	7/16/2002	14.20	90.50	7.11	83.39	0.00
	8/17/2002	14.18	90.50	8.61	81.89	0.00
	9/11/2002	14.20	90.50	7.53	82.97	0.00
	10/15/2002	14.20	90.50	7.87	82.63	0.00
	11/15/2002	14.20	90.50	6.06	84.44	0.00
	12/16/2002	14.41	90.50	2.52	87.98	0.00
	1/13/2003	14.22	90.50	2.11	88.39	0.00
	2/14/2003	14.18	90.50	3.43	87.07	0.00
	3/12/2003	14.18	90.50	4.08	86.42	0.00
	4/11/2003	14.18	90.50	2.23	88.27	0.00
	7/14/2003	14.39	90.50	6.52	83.98	0.00
	10/26/2003	14.39	90.50	7.70	82.80	0.00
	1/17/2004	14.39	90.50	2.53	87.97	0.00
	4/22/2004	14.39	90.50	3.43	87.07	0.00
	7/23/2004	14.39	90.50	7.35	83.15	0.00
	10/31/2004	14.11	90.50	4.36	86.14	0.00
	1/21/2005	14.37	90.50	3.25	87.25	0.00
	4/29/2005	14.37	90.50	4.05	86.45	0.00
	7/21/2005	14.40	90.50	5.75	84.75	0.00
MW-2	5/19/2002	14.25	91.20	5.25	85.95	0.00
	6/16/2002	14.23	91.20	6.19	85.01	0.00
	7/16/2002	14.21	91.20	7.12	84.08	0.00
	8/17/2002	14.16	91.20	7.80	83.40	0.00
	9/11/2002	14.14	91.20	7.71	83.49	0.00
	10/15/2002	14.13	91.20	8.28	82.92	0.00
	11/15/2002	14.19	91.20	6.30	84.90	0.00
	12/16/2002	14.43	91.20	3.73	87.47	0.00
	1/13/2003	14.14	91.20	2.25	88.95	0.00
	2/14/2003	14.21	91.20	3.25	87.95	0.00
	3/12/2003	14.15	91.20	3.67	87.53	0.00
	4/11/2003	14.15	91.20	2.20	89.00	0.00
	7/14/2003	14.30	91.20	6.61	84.59	0.00
	10/26/2003	14.30	91.20	8.18	83.02	0.00
	1/17/2004	14.30	91.20	2.37	88.83	0.00
	4/22/2004	14.30	91.20	2.90	88.30	0.00
	7/23/2004	14.30	91.20	7.48	83.72	0.00
	10/31/2004	14.05	91.20	4.19	87.01	0.00
	1/21/2005	14.28	91.20	2.95	88.25	0.00
	4/29/2005	14.22	91.20	3.45	87.75	0.00
	7/21/2005	14.28	91.20	5.40	85.80	0.00

Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation/ Feet Above MSL	Thickness of Floating Product/ Feet
MW-3	5/19/2002	14.15	90.37	5.24	85.13	0.00
	6/16/2002	14.20	90.37	5.96	84.41	0.00
	7/16/2002	14.20	90.37	6.88	83.49	0.00
	8/17/2002	14.20	90.37	8.56	81.81	0.00
	9/11/2002	14.19	90.37	7.25	83.12	0.00
	10/15/2002	14.20	90.37	7.34	83.03	0.00
	11/15/2002	14.21	90.37	7.37	83.00	0.00
	12/16/2002	14.46	90.37	5.88	84.49	0.00
	1/13/2003	14.20	90.37	4.70	85.67	0.00
	2/14/2003	14.20	90.37	6.49	83.88	0.00
	3/12/2003	14.20	90.37	5.78	84.59	0.00
	4/11/2003	14.20	90.37	4.55	85.82	0.00
	7/14/2003	14.40	90.37	7.22	83.15	0.00
	10/26/2003	14.40	90.37	7.26	83.11	0.00
	1/17/2004	14.40	90.37	5.11	85.26	0.00
	4/22/2004	14.40	90.37	4.58	85.79	0.00
	7/23/2004	14.40	90.37	7.23	83.14	0.00
	10/31/2004	14.14	90.37	5.79	84.58	0.00
	1/21/2005	14.41	90.37	4.41	85.96	0.00
	4/29/2005	14.42	90.37	5.10	85.27	0.00
	7/21/2005	14.43	90.37	5.94	84.43	0.00

Notes:
Bgs: Below Ground Surface
MSL: Mean Sea Level

Table 2
Quarterly Groundwater Analytical Results

BO and T Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample Location	Sample Event	Annual Quarter	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	Methanol (ppb)	Ethanol (ppb)	TPHd (ppb)	TPHmo (ppb)
MW-1	Well Installation	Second Quarter	5/19/2002	364	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	344	ND < 0.5	ND < 0.5	5	ND < 40	ND < 5,000	ND < 5,000	170	ND < 50
	First Quarterly	Third Quarter	7/16/2002	144	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	234	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	ND < 5,000	ND < 5,000	235	ND < 50
	Second Quarterly	Fourth Quarter	10/15/2002	99.3	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	225	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	----	----	ND < 50	ND < 50
	Third Quarterly	First Quarter	1/13/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	130	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 12.5	ND < 50	ND < 500
	Fourth Quarterly	Second Quarter	4/11/2003	ND < 50	ND < 5.0	ND < 5.0	ND < 10	ND < 5.0	150	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	ND < 130	ND < 50	ND < 500
	Fifth Quarterly	Third Quarter	7/14/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	370	ND < 0.5	0.5	ND < 0.5	54	ND < 5.0	ND < 13	ND < 50	ND < 500
	Sixth Quarterly	Fourth Quarter	10/26/2003	ND < 50	ND < 5.0	ND < 5.0	ND < 10.0	ND < 5.0	190	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 5.0	ND < 200	ND < 50	ND < 500
	Seventh Quarterly	First Quarter	1/17/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	89	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 20	ND < 50	ND < 500
	Eighth Quarterly	Second Quarter	4/22/2004	160	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	260	ND < 0.5	0.8	ND < 0.5	ND < 5.0	----	----	ND < 50	ND < 500
	Ninth Quarterly	Third Quarter	7/23/2004	ND < 500	ND < 5.0	ND < 5.0	ND < 15	ND < 5.0	370	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	----	----	ND < 50	ND < 500
	Tenth Quarterly	Fourth Quarter	10/31/2004	66	ND < 0.5	ND < 0.5	ND < 1.5	ND < 0.5	100	ND < 0.5	0.5	ND < 0.5	ND < 5.0	----	----	ND < 50	ND < 500
	Eleventh Quarterly	First Quarter	1/21/2005	79.1	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	91.3	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	----	----	ND < 50	ND < 50
	Twelfth Quarterly	Second Quarter	4/29/2005	163	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	234	----	----	----	----	----	----	----	----
	Thirteenth Quarterly	Third Quarter	7/21/2005	366	ND < 1.2	ND < 1.2	ND < 2.5	ND < 1.2	408	ND < 1.2	ND < 1.2	ND < 1.2	ND < 125	----	----	----	----
MW-2	Well Installation	Second Quarter	5/19/2002	7,830	1,000	ND < 30	128	127	1,600	ND < 50	ND < 50	ND < 50	ND < 4,000	ND < 500,000	ND < 5,000	788	614
	First Quarterly	Third Quarter	7/16/2002	4,980	383	11.1	33.7	57.4	10,700	ND < 10	102	ND < 10	ND < 2000	ND < 5,000	ND < 5,000	322	ND < 50
	Second Quarterly	Fourth Quarter	10/15/2002	3,370	127	3.2	1.7	5.5	15,000	ND < 0.5	86.2	ND < 0.5	ND < 100	----	----	ND < 50	ND < 50
	Third Quarterly	First Quarter	1/13/2003	120	12	ND < 0.5	ND < 1.0	1.0	170	ND < 0.5	1.6	ND < 0.5	ND < 5.0	ND < 5.0	ND < 12.5	ND < 50	ND < 500
	Fourth Quarterly	Second Quarter	4/11/2003	240	38	ND < 5.0	ND < 10	5.1	180	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 5.0	ND < 130	57	ND < 500
	Fifth Quarterly	Third Quarter	7/14/2003	220	5	ND < 5.0	ND < 10	ND < 5.0	1,100	ND < 5.0	9	ND < 5.0	ND < 50	ND < 5.0	ND < 130	ND < 50	ND < 500
	Sixth Quarterly	Fourth Quarter	10/26/2003	730	60	ND < 50	ND < 100	ND < 50	6,500	ND < 50	65	ND < 50	ND < 500	ND < 5.0	ND < 2,000	ND < 50	ND < 500
	Seventh Quarterly	First Quarter	1/17/2004	ND < 500	15	ND < 5.0	ND < 10	ND < 5.0	150	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 5.0	ND < 200	70	ND < 500
	Eighth Quarterly	Second Quarter	4/22/2004	ND < 500	24	16	ND < 10	ND < 5.0	190	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	----	----	ND < 50	ND < 500
	Ninth Quarterly	Third Quarter	7/23/2004	1,600	9.3	ND < 5.0	ND < 15	ND < 5.0	4,000	ND < 5.0	29	ND < 5.0	ND < 50	----	----	75	ND < 500
	Tenth Quarterly	Fourth Quarter	10/31/2004	550	11	ND < 5.0	ND < 15	ND < 5.0	660	ND < 5.0	5.6	ND < 5.0	ND < 50	----	----	67	ND < 500
	Eleventh Quarterly	First Quarter	1/21/2005	159	9.0	0.7	ND < 1.0	2.1	142	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	----	----	ND < 50	ND < 50
	Twelfth Quarterly	Second Quarter	4/29/2005	173	18.8	ND < 1.2	ND < 2.5	5.4	170	----	----	----	----	----	----	----	----
	Thirteenth Quarterly	Third Quarter	7/21/2005	1,410	8.9	ND < 5.0	ND < 10.0	ND < 5.0	1,650	ND < 5.0	16.0	ND < 5.0	ND < 500	----	----	----	----
MW-3	Well Installation	Second Quarter	5/19/2002	13,300	ND < 30	ND < 30	ND < 60	ND < 30	49,312	ND < 50	ND < 50	ND < 50	ND < 4,000	ND < 500,000	ND < 5,000	146	ND < 50
	First Quarterly	Third Quarter	7/16/2002	12,400	ND < 6.0	ND < 6.0	ND < 12.0	ND < 6.0	36,700	ND < 10	109	ND < 10	ND < 2000	ND < 5,000	ND < 5,000	200	ND < 50
	Second Quarterly	Fourth Quarter	10/15/2002	5,690	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	25,800	ND < 0.5	104	ND < 0.5	ND < 100	----	----	ND < 50	ND < 50
	Third Quarterly	First Quarter	1/13/2003	1,800	ND < 0.5	ND < 0.5	ND < 0.9	ND < 0.5	11,000	p	71	6.2	1,000	ND < 5.0	ND < 12.5	ND < 50	ND < 500
	Fourth Quarterly	Second Quarter	4/11/2003	1,300	ND < 50	ND < 50	ND < 100	ND < 50	11,000	ND < 50	ND < 50	ND < 50	ND < 500	ND < 5.0	ND < 1,300	ND < 50	ND < 500
	Fifth Quarterly	Third Quarter	7/14/2003	2,000	ND < 50	ND < 50	ND < 100	ND < 50	19,000	ND < 50	71	ND < 50	ND < 500	ND < 5.0	ND < 1,300	ND < 50	ND < 500
	Sixth Quarterly	Fourth Quarter	10/26/2003	ND < 50	ND < 50	ND < 50	ND < 100	ND < 50	20,000	ND < 50	120	ND < 50	ND < 500	ND < 5.0	ND < 2,000	56	ND < 500
	Seventh Quarterly	First Quarter	1/17/2004	ND < 5,000	ND < 50	ND < 50	ND < 100	ND < 50	11,000	ND < 50	110	ND < 50	ND < 500	ND < 5.0	ND < 2,000	ND < 50	ND < 500
	Eighth Quarterly	Second Quarter	4/22/2004	10,000	ND < 50	100	ND < 100	ND < 50	14,000	ND < 50	130	ND < 50	ND < 500	----	----	ND < 50	ND < 500
	Ninth Quarterly	Third Quarter	7/23/2004	7,300	ND < 50	ND < 50	ND < 150	ND < 50	13,000	ND < 50	92	ND < 50	ND < 500	----	----	120	ND < 500
	Tenth Quarterly	Fourth Quarter	10/31/2004	7,000	ND < 20	ND < 50	ND < 150	ND < 50	11,000	ND < 50	84	ND < 50	ND < 500	----	----	ND < 50	ND < 500
	Eleventh Quarterly	First Quarter	1/21/2005	10,800	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	14,200	ND < 0.5	108	6.6	152	----	----	ND < 50	ND < 50
	Twelfth Quarterly	Second Quarter	4/29/2005	19,200	ND < 100	284	898	136	12,700	----	----	----	----	----	----	----	----
	Thirteenth Quarterly	Third Quarter	7/21/2005	9,050	ND < 62.5	ND < 62.5	ND < 125	ND < 62.5	11,100	ND < 62.5	65	ND < 62.5	ND < 6,250	----	----	----	----
DW-1	Fifth Quarterly	Third Quarter	7/14/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 13	ND < 50	ND < 500

Notes:

TPHg: Total Petroleum Hydrocarbons as gasoline

MTBE: Methyl tertiary butyl ether

DIPE: Diisopropyl Ether

TAME: Tertiary amyl methyl ether

ETBE: Ethyl tertiary butyl ether

TBA: Tertiary butanol

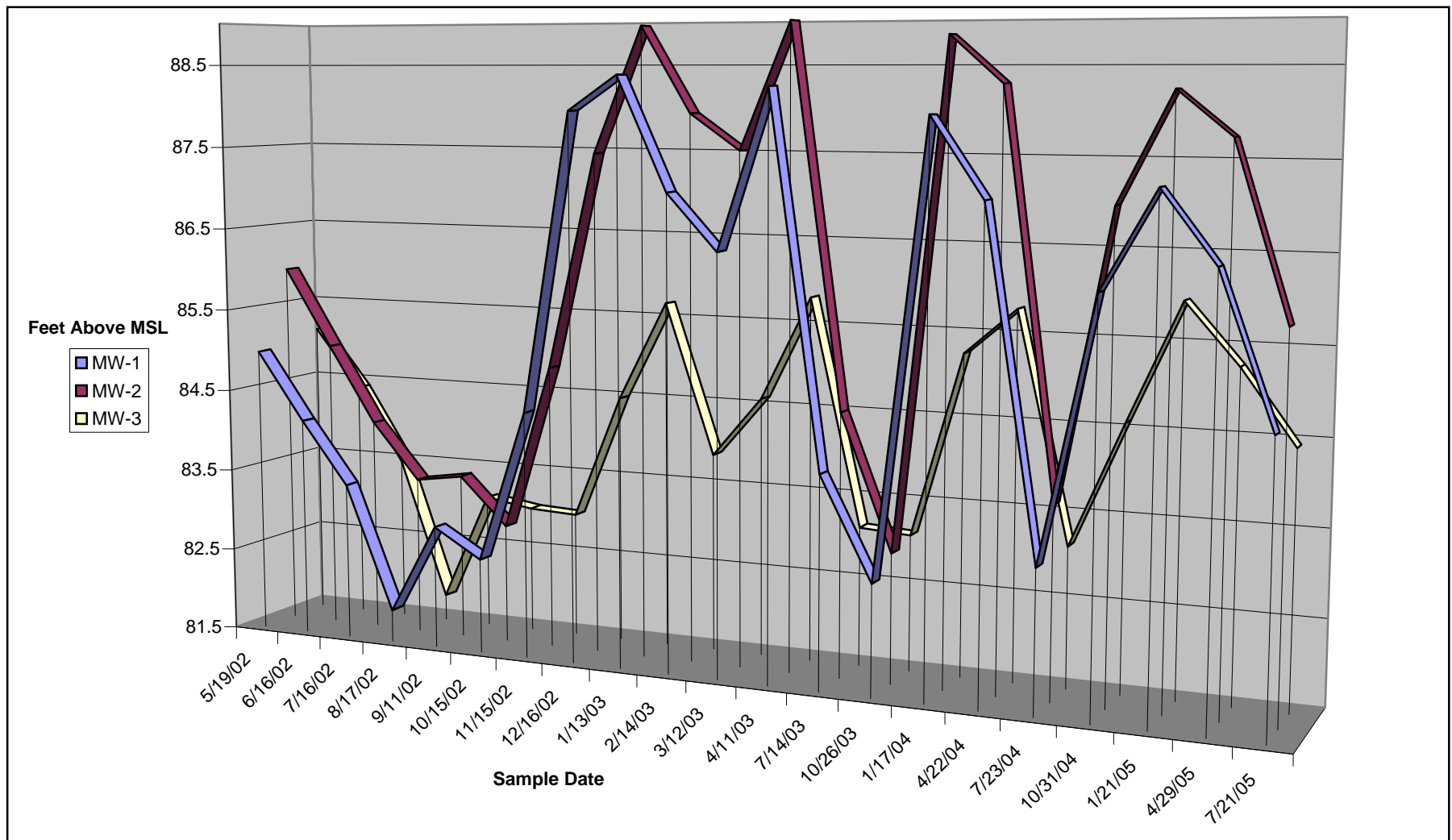
TPHd: Total Petroleum Hydrocarbons as diesel

TPHmo: Total petroleum hydrocarbons as motor oil

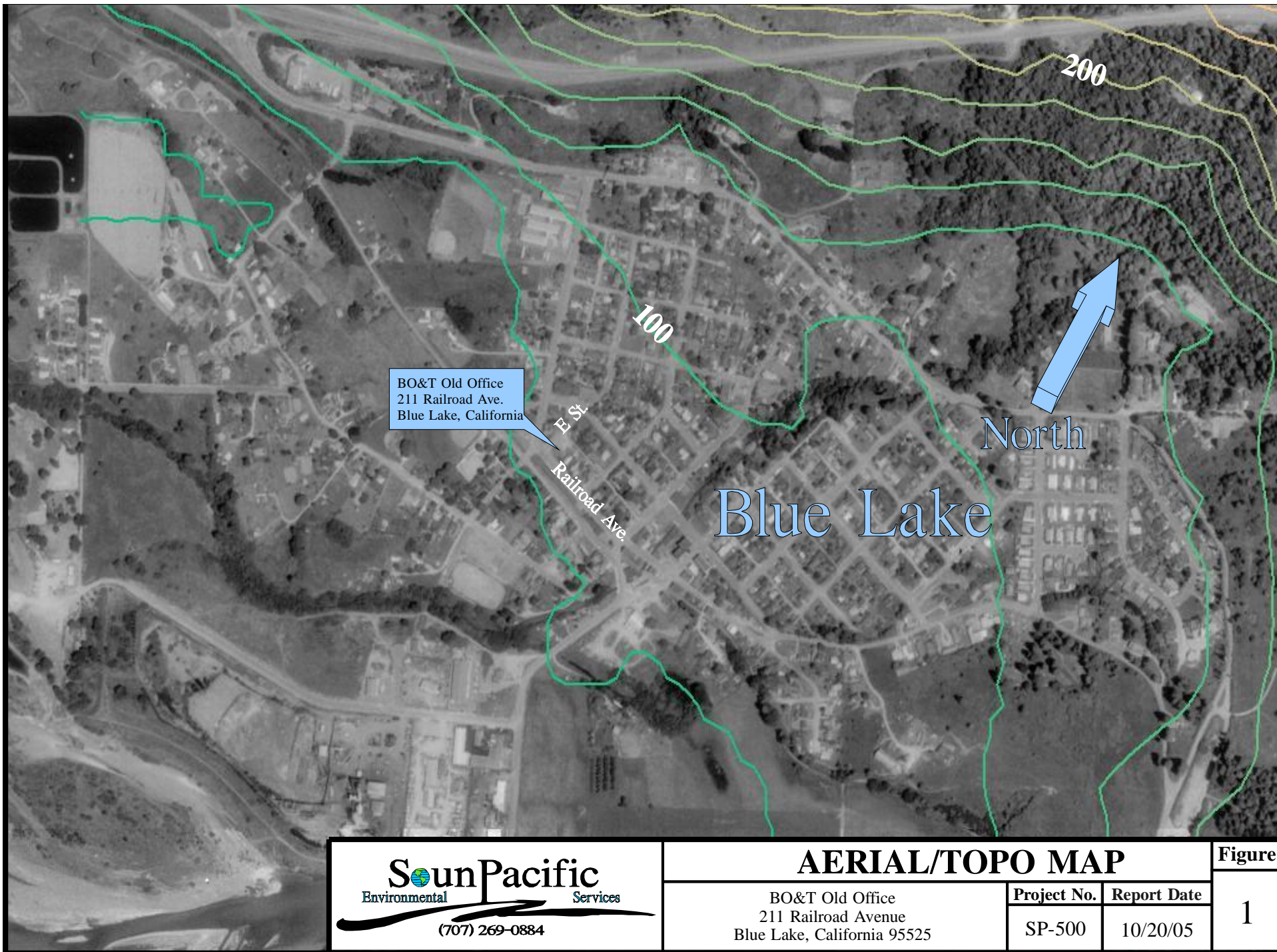
ND: Not detected. Sample was detected at or below the method detection limit as shown.

ppb: parts per billion = µg/l = .001 mg/l = 0.001 ppm

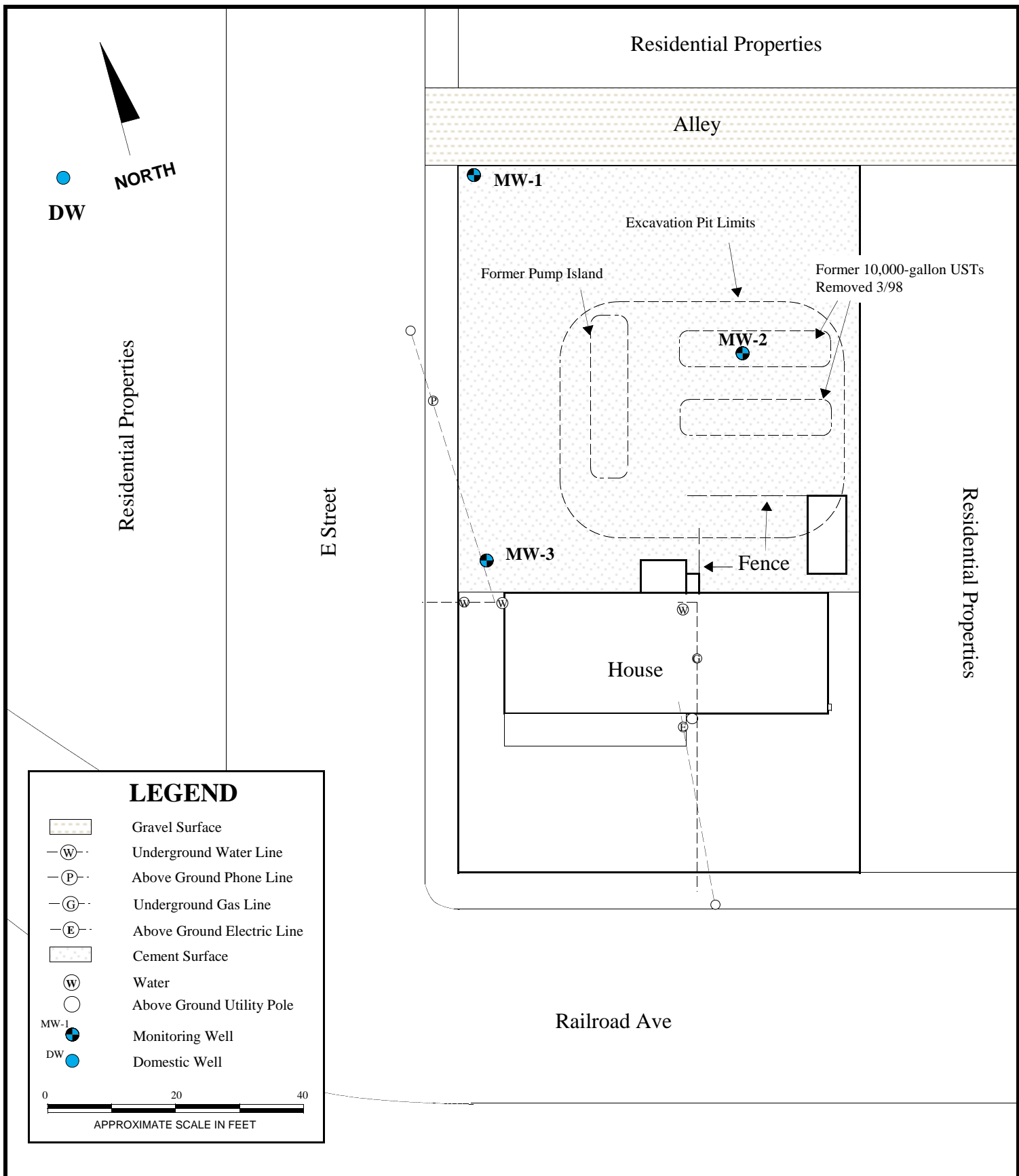
Chart 1
Hydrograph
BO and T Old Office
211 Railroad Avenue
Blue Lake, California 95525



Figures

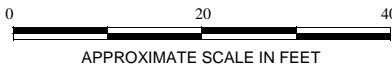


 <p>Soun Pacific Environmental Services (707) 269-0884</p>	AERIAL/TOPO MAP			Figure
	BO&T Old Office 211 Railroad Avenue Blue Lake, California 95525	Project No.	Report Date	1
		SP-500	10/20/05	



LEGEND

- Gravel Surface
- Underground Water Line
- Above Ground Phone Line
- Underground Gas Line
- Above Ground Electric Line
- Cement Surface
- Water
- Above Ground Utility Pole
- MW-1 Monitoring Well
- DW Domestic Well



SITE PLAN

Figure

BO&T Old Office
211 Railroad Ave
Blue Lake, California 95525

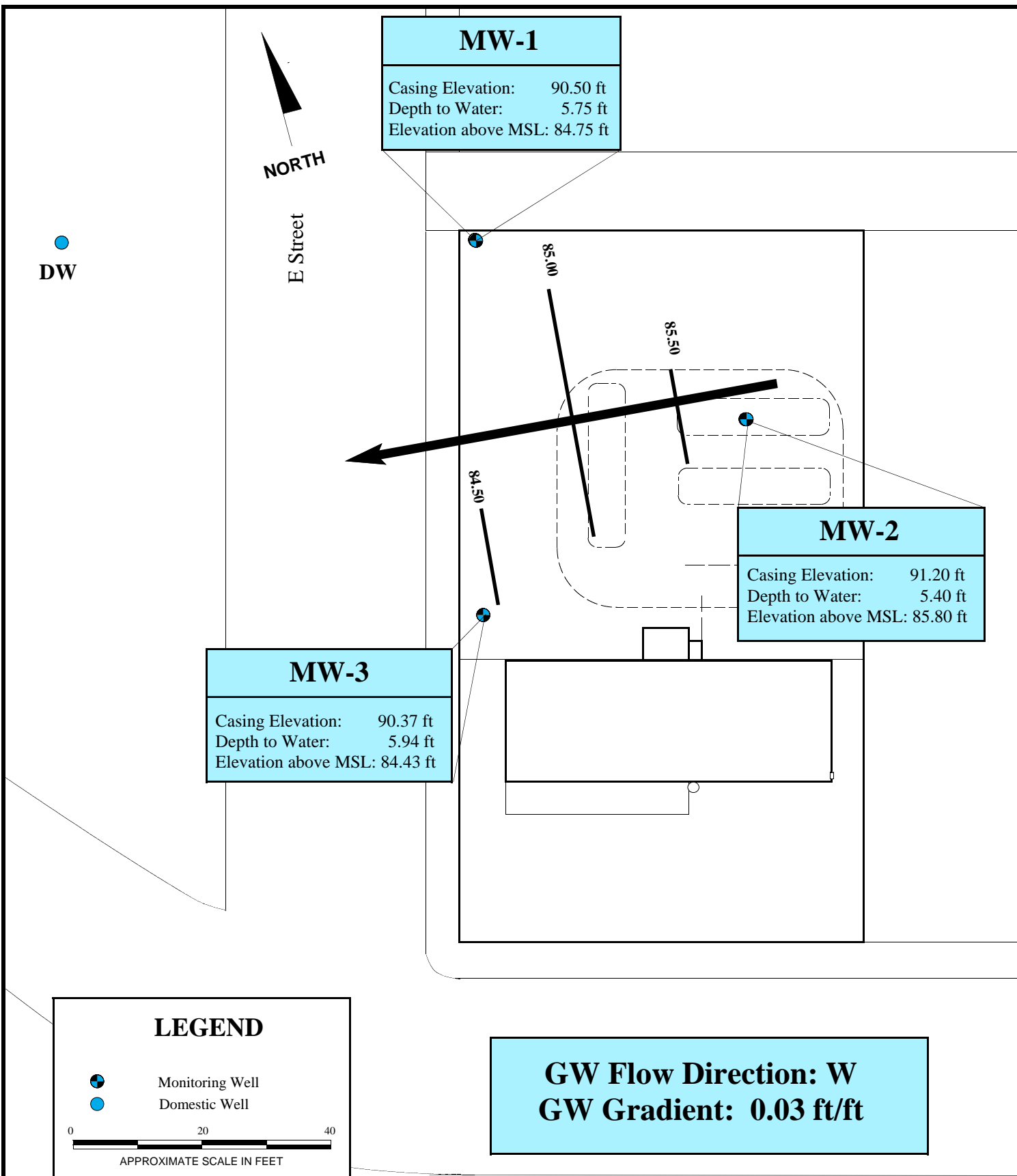
Project No.

Report Date

SP-500

10/20/05

2



GROUNDWATER GRADIENT MAP JULY 2005

BO&T Old Office
 211 Railroad Ave
 Blue Lake, California 95525

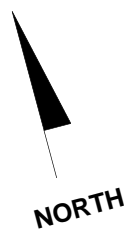
Project No.
 SP-500

Report Date
 10/20/05

Figure

3







E Street


Groundwater Results MW-1		
TPHg	366	ppb
MTBE	408	ppb

MW-1

LEGEND

 Monitoring Well

 Gravel Surface

 Cement Surface

02040

APPROXIMATE SCALE IN FEET

Groundwater Results MW-2		
TPHg	1,410	ppb
BTXE	28.9	ppb
MTBE	1,650	ppb
TAME	16	ppb

MW-2

Groundwater Results MW-3		
TPHg	9,050	ppb
MTBE	11,100	ppb
TAME	65	ppb

MW-3

Railroad Ave



GROUNDWATER ANALYTICAL RESULTS

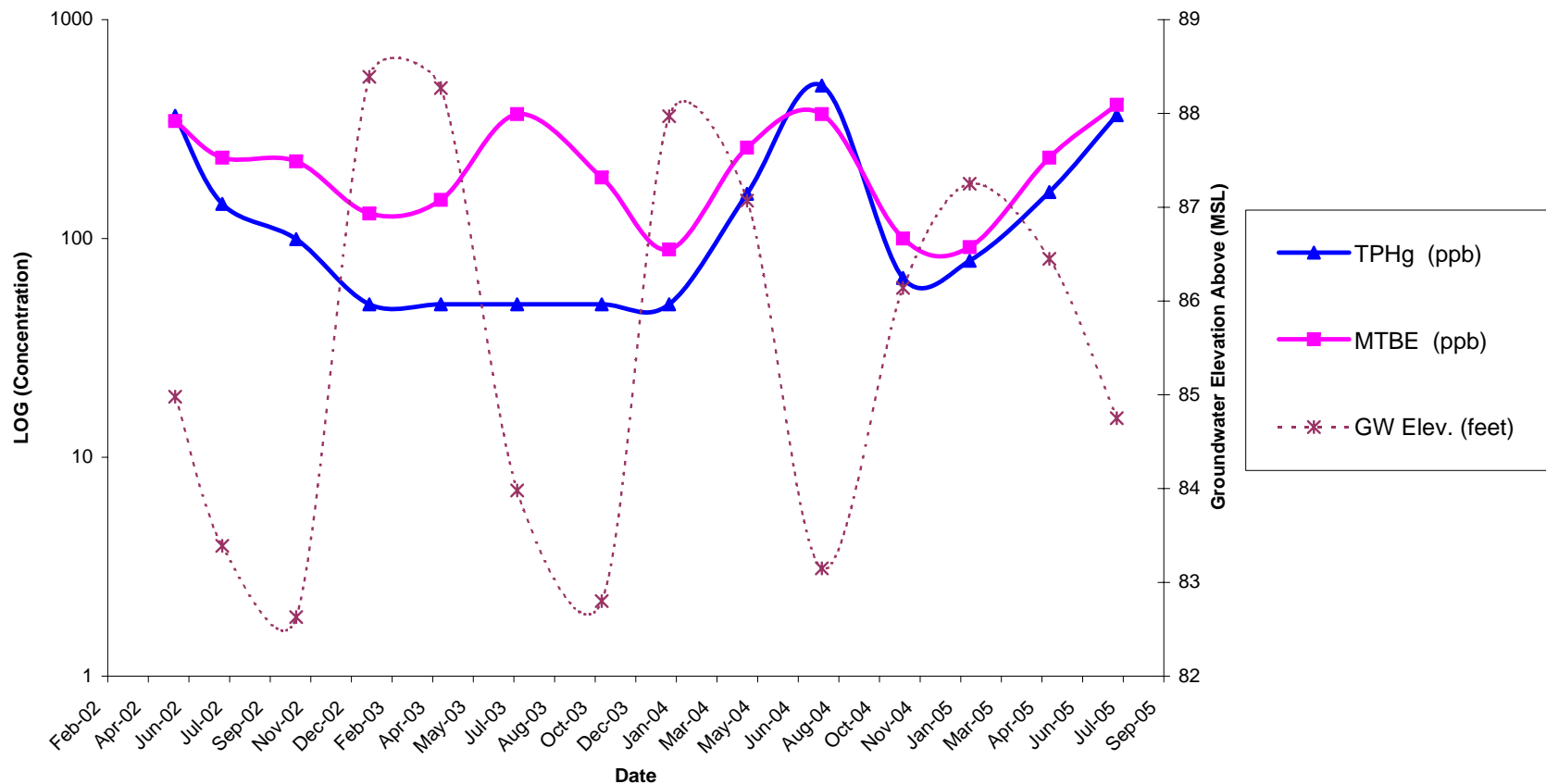
BO&T Old Office
211 Railroad Ave
Blue Lake, California 95525


Project No.
SP-500

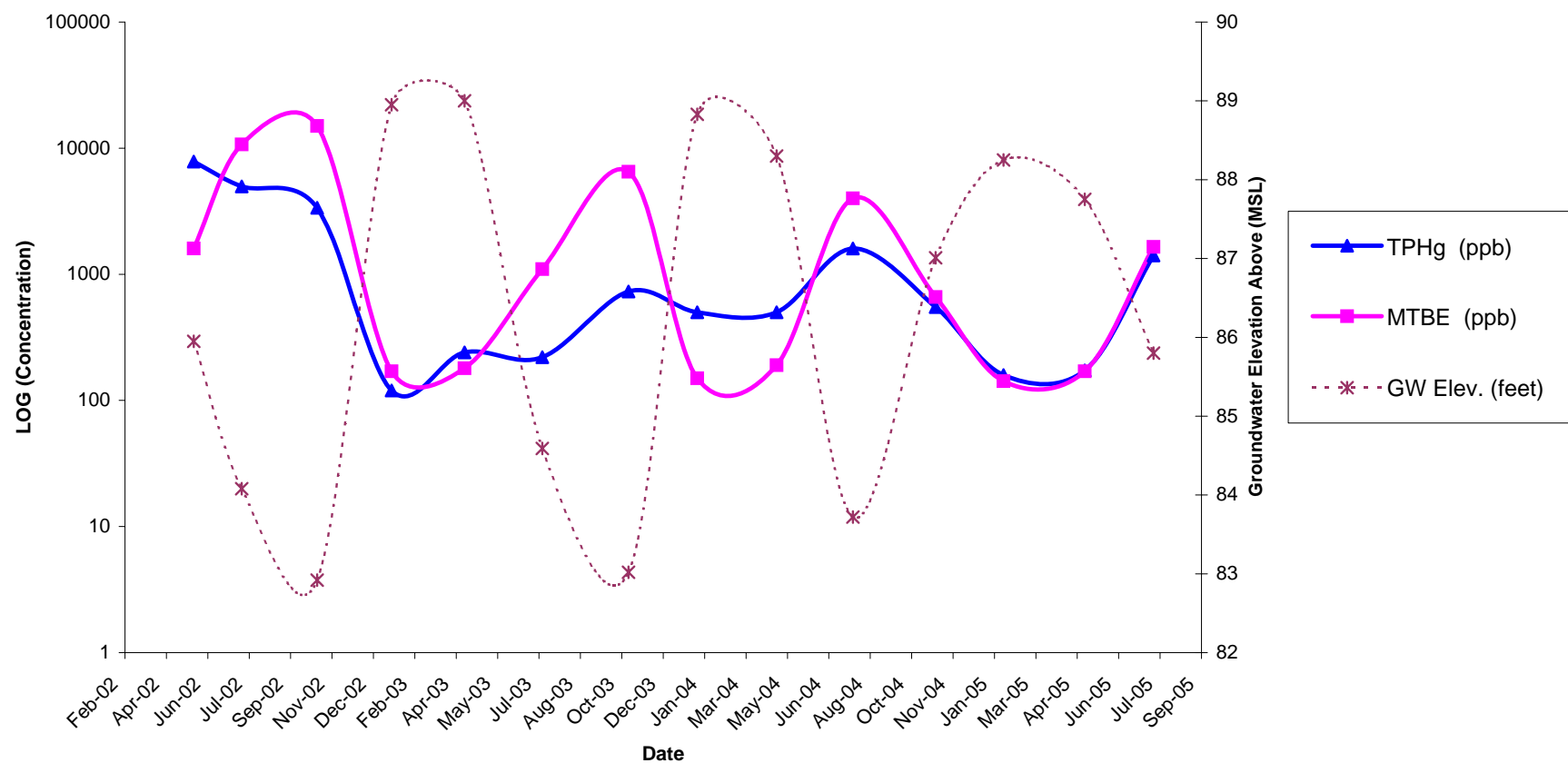
Report Date
10/20/05

Figure

4



	MW-1 HYDROCARBON CONCENTRATIONS VS. TIME			Figure
	BO&T Old Office 211 Railroad Avenue Blue Lake, California 95525	Project No.	Date	5
		SP-500	10/20/2005	



Soun Pacific
 Environmental Services
 (707) 269-0884

MW-2 HYDROCARBON CONCENTRATIONS VS. TIME

BO&T Old Office
 211 Railroad Avenue
 Blue Lake, California 95525

Project No.

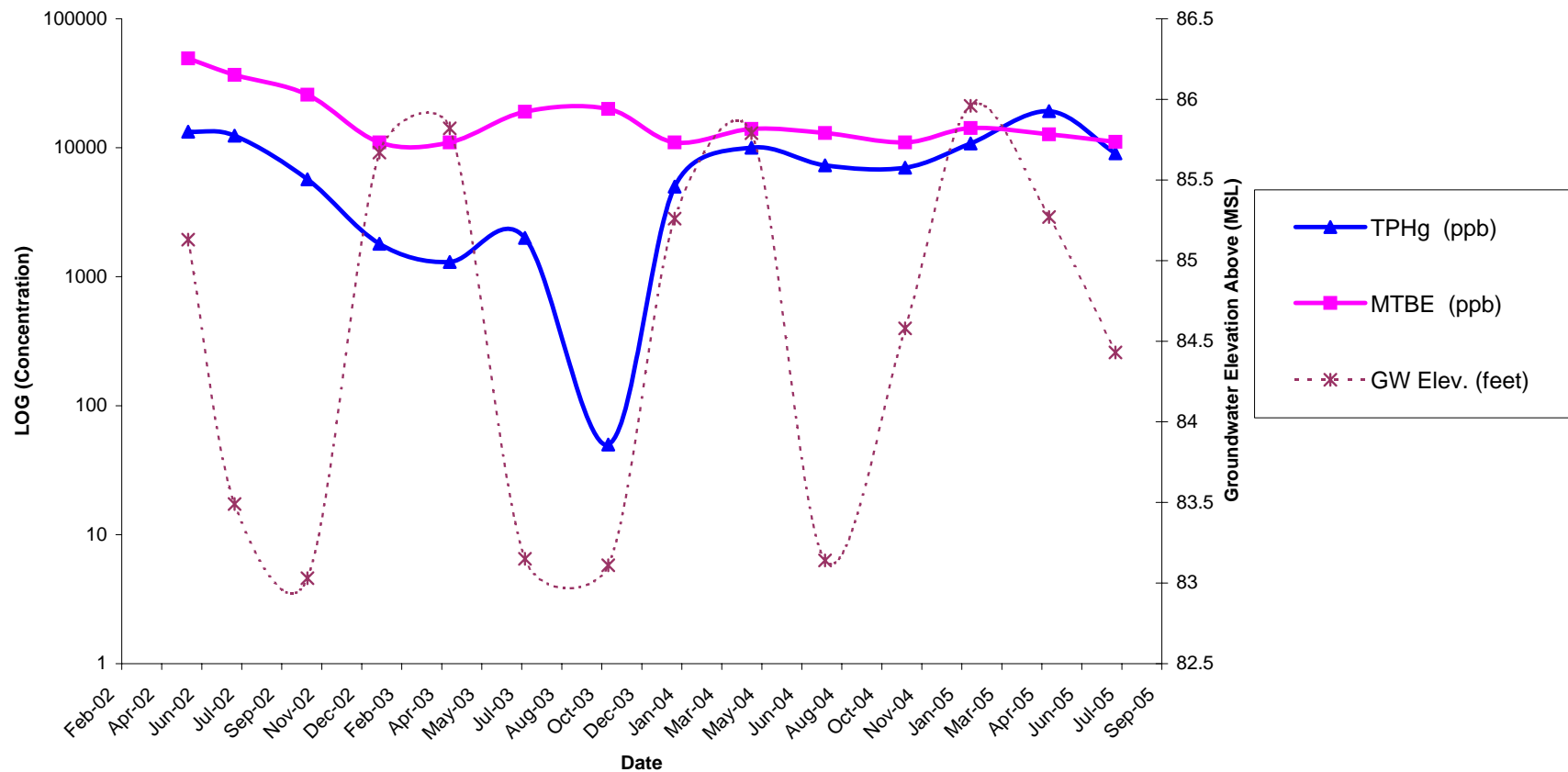
SP-500


Date

10/20/2005

Figure

6



	MW-3 HYDROCARBON CONCENTRATIONS VS. TIME			Figure
	BO&T Old Office 211 Railroad Avenue Blue Lake, California 95525		Project No. SP-500	7
			Date 10/20/2005	

Appendices

Appendix A



www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

August 05, 2005

Lab ID: 5070884

Andy Malone
SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
RE: BO&T OLD OFFICE SP-500

Dear Andy Malone,

Enclosed are the analysis results for Work Order number 5070884. All analysis were performed under strict adherence to our established Quality Assurance Plan. Any abnormalities are listed in the qualifier section of this report.

If you have any questions regarding these results, please feel free to contact us at any time. We appreciate the opportunity to service your environmental testing needs.

Sincerely,

Richy Jensen
For

James E. Hawley

James E. Hawley
Laboratory Director
California ELAP Certification Number 1677



www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549

Attention: Andy Malone

Project: BO&T OLD OFFICE SP-500

Description: MW-1

Matrix: Water

Lab ID: 5070884-01

Lab No: 5070884
Reported: 08/05/05
Phone: 707-269-0884
P.O. #

Sampled: 07/21/05 00:00

Received: 07/27/05 09:56

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	366	R-01		125	EPA 8015/8260	08/02/05	08/01/05	B5H0086
Benzene	"	ND	R-01		1.2	"	"	"	"
Toluene	"	ND	R-01		1.2	"	"	"	"
Ethylbenzene	"	ND	R-01		1.2	"	"	"	"
Xylenes (total)	"	ND	R-01		2.5	"	"	"	"
Methyl tert-butyl ether	"	408	R-01		8.0	"	08/01/05	"	"
Di-isopropyl ether	"	ND	R-01		1.2	"	08/02/05	"	"
Tert-amyl methyl ether	"	ND	R-01		1.2	"	"	"	"
Ethyl tert-butyl ether	"	ND	R-01		1.2	"	"	"	"
Tert-butyl alcohol	"	ND	R-01		125	"	"	"	"
Surrogate: 4-Bromofluorobenzene		97.6 %			43-155	"	"	"	"

Approved By

Basic Laboratory, Inc.
California D.O.H.S. Cert #1677



www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549

Attention: Andy Malone

Project: BO&T OLD OFFICE SP-500

Description: MW-2

Matrix: Water

Lab ID: 5070884-02

Lab No: 5070884
Reported: 08/05/05
Phone: 707-269-0884
P.O. #

Sampled: 07/21/05 00:00

Received: 07/27/05 09:56

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	1410	R-01		500	EPA 8015/8260	08/02/05	08/01/05	B5H0086
Benzene	"	8.9	R-01		5.0	"	"	"	"
Toluene	"	ND	R-01		5.0	"	"	"	"
Ethylbenzene	"	ND	R-01		5.0	"	"	"	"
Xylenes (total)	"	ND	R-01		10.0	"	"	"	"
Methyl tert-butyl ether	"	1650	R-01		40.0	"	08/01/05	"	"
Di-Isopropyl ether	"	ND	R-01		5.0	"	08/02/05	"	"
Tert-amyl methyl ether	"	16.0	R-01		5.0	"	"	"	"
Ethyl tert-butyl ether	"	ND	R-01		5.0	"	"	"	"
Tert-butyl alcohol	"	ND	R-01		500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		99.4 %			43-155	"	"	"	"



Approved By

Basic Laboratory, Inc.

California D.O.H.S. Cert #1677



www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549

Attention: Andy Malone

Project: BO&T OLD OFFICE SP-500

Description: MW-3

Matrix: Water

Lab ID: 5070884-03

Lab No: 5070884
Reported: 08/05/05
Phone: 707-269-0884
P.O. #

Sampled: 07/21/05 00:00

Received: 07/27/05 09:56

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	9050	R-01		6250	EPA 8015/8260	08/01/05	08/01/05	B5H0029
Benzene	"	ND	R-01		62.5	"	"	"	"
Toluene	"	ND	R-01		62.5	"	"	"	"
Ethylbenzene	"	ND	R-01		62.5	"	"	"	"
Xylenes (total)	"	ND	R-01		125	"	"	"	"
Methyl tert-butyl ether	"	11100	R-01		250	"	08/01/05	"	"
Di-isopropyl ether	"	ND	R-01		62.5	"	08/01/05	"	"
Tert-amyl methyl ether	"	65.0	R-01		62.5	"	"	"	"
Ethyl tert-butyl ether	"	ND	R-01		62.5	"	"	"	"
Tert-butyl alcohol	"	ND	R-01		6250	"	"	"	"
Surrogate: 4-Bromofluorobenzene		96.8 %			43-155	"	"	"	"

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). The J flag is equivalent to the DNQ Estimated Concentration flag.
R-01	The Reporting Limit and Detection Limit for this analyte have been raised due to necessary sample dilution.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
<	Less than reporting limit
≤	Less than or equal to reporting limit
>	Greater than reporting limit
≥	Greater than or equal to reporting limit
MDL	Method Detection Limit
RL/ML	Minimum Level of Quantitation
MCL/AL	Maximum Contaminant Level/Action Level
mg/kg	Results reported as wet weight
TTL	Total Threshold Limit Concentration
STLC	Soluble Threshold Limit Concentration
TCLP	Toxicity Characteristic Leachate Procedure



Approved By

Basic Laboratory, Inc.

California D.O.H.S. Cert #1677

Appendix B



Standard Operating Procedures

Monitoring Well Purging and Groundwater Sampling

All SounPacific employees and contractors shall adopt the following procedures any time that groundwater samples are to be taken from an existing groundwater monitoring well.

Prior to the implementation of these procedures, the groundwater level **MUST** be measured and the presence of free phase hydrocarbons determined in accordance with SounPacific's Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements.

Equipment Checklist

- ☐ Gauging Data / Purge Calculations Sheet used for water level determination
- ☐ Chain of Custody Form
- ☐ pH/ Conductivity / Temperature meter
- ☐ Pencil or Pen
- ☐ Indelible Marker
- ☐ Calculator
- ☐ Disposable Gloves
- ☐ Distilled Water
- ☐ Alconox/liquinox liquid or powdered non-phosphate cleaner
- ☐ Buckets or Tubs for decontamination station
- ☐ Bottom-filling bailer or pumping device for purging
- ☐ Disposable bottom-filling bailer and emptying device for sampling
- ☐ String, twine or fishing line for bailers
- ☐ Sample containers appropriate for intended analytical method (check with lab)
- ☐ Sample labels
- ☐ Site Safety Plan
- ☐ Tools necessary to access wells
- ☐ Drum space on site adequate for sampling event

SounPacific Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements, Page 2 of 3

Procedure

1. Review Site Safety Plan and utilize personal protection appropriate for the contaminants that may be encountered.
2. Measure groundwater levels and check for the presence of free product in accordance with the Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements.

Purging

3. Calculate and record the volume of standing water in each well using the information provided on the Gauging Data / Purge Calculations sheet.
 $(DTB-DTW) \times \text{Conversion Factor} = \text{Casing Volume}.$
4. The purge volume shall be at least three times and no more than seven times the volume of standing water (the casing volume).
5. Purge the well by bailing or pumping water from the well into a calibrated receptacle, such as a five gallon bucket or tub with markings to indicate one gallon increments. Collect purgeate in a 55 gallon labeled drum and store on site. Drum labels should include the date, contents, site number, and SounPacific's name and telephone number.
6. Take measurements of pH, conductivity, temperature, and visual observations to verify the stabilization of these parameters. At least five measurements of these parameters should be made throughout the purging process. The parameters shall be considered stabilized if successive measurements vary by less than 0.25 pH units, 10% of conductivity in μS , and 1°C (or 1.8°F). Continue purging until at least three times the casing volume has been removed, and the measured parameters have stabilized as indicated above. Do not exceed seven casing volumes.
7. Take a final depth to groundwater measurement and calculate the casing volume of the recharged well. Ideally, the casing volume should have recharged to at least 80% of the original measured casing volume before sampling commences. If due to slow recharge rates it is not feasible to wait for the well to fully recharge, then note this on the Gauging Data / Purge Calculation Sheet and proceed to sample following the procedure below.

Sampling

8. **After completing groundwater measurement, and checking for free product if necessary, in accordance with SounPacific's Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements, and after purging monitoring wells as described above, groundwater samples may be collected.**
9. Slowly lower a clean, previously unused disposable bailer into the well water approximately half of the bailer length, and allow the bailer to slowly fill.
10. Withdraw the full bailer from the monitoring well and utilize the included (clean and unused) bottom-emptying device to fill the necessary sample containers, and seal the container with the included PTFE (Teflon) lined cap.
11. When filling VOAs, fill the VOA completely full, with the meniscus rising above the rim of the bottle. Carefully cap the VOA and invert it and gently tap it to determine whether air bubbles are trapped inside. If the VOA contains air bubbles, refill the VOA and repeat this step.
12. All samples shall be labeled with the Sample ID, the Sample Date, and the Sample Location or Project Number. Use an indelible marker for writing on sample labels.
13. Record all pertinent sample data on the Chain of Custody.
14. Place samples in an ice chest cooled to 4°C with ice or "blue ice". Bottles should be wrapped in bubble wrap, and VOA's should be inserted in a foam VOA holder to protect against breakage. Samples are to be kept at 4°C until delivered to the laboratory. Any transference of sample custody shall be indicated on the Chain of Custody with the appropriate signatures as necessary.
15. Utilize clean, previously unused gloves, bailer and line, and bottom-emptying device for each well sampled.
16. When finished with all sampling, close and secure all monitoring wells.
17. Leave the site cleaner than when you arrived and drive safely.



Standard Operating Procedures

Groundwater Level Measurements and Free Phase Hydrocarbon Measurements

All SounPacific staff and contractors shall adopt the following procedures any time that groundwater elevations are determined for the purposes of establishing groundwater gradient and direction, and prior to any sampling event.

Wells are to be tested for free phase hydrocarbons (free product) before the first development or sampling of any new well, and in any well that has historically contained free product.

Equipment Checklist

- ☐ Combination water level / free phase hydrocarbon indicator probe (probe)
- ☐ Gauging Data / Purge Calculations Sheet
- ☐ Pencil or Pen/sharpie
- ☐ Disposable Gloves
- ☐ Distilled Water and or know water source on site that is clean
- ☐ Alconox (powder) or Liquinox (liquid) non-phosphate cleaners—do not use soap!
- ☐ Buckets or Tubs for decontamination station
- ☐ Tools necessary to access wells
- ☐ Site Safety Plan
- ☐ This Standard Operating Procedure
- ☐ Notify Job site business that you will be arriving to conduct work.

Procedure

1. Review Site Safety Plan and utilize personal protection appropriate for the contaminants that may be encountered.
2. Access and open all monitoring wells to be measured. Allow wells to equilibrate for approximately 15 minutes before taking any measurements.

3. Decontaminate probe with Alconox or Liquinox solution, and rinse with distilled water.
4. Determine the diameter of the well to be measured and indicate this on the Gauging Data / Purge Calculations Sheet.
5. Words of caution: Please be careful with water level and product meters probes are not attached with high strength material so please make sure to avoid catching the end on anything in the well and make sure not to wind reel to the point that it could pull on the probe. ***If product is suspect in a well, go to step 6, if no product is suspected go to step 7 below.***
6. **When product is present or suspected:** use the product level meter. Clip the static charge clamp to the side of the well casing. Then lower probe into the well through the product/water interface about one foot if possible. Then slowly raise the probe back up through the product/water interface layer and record the level as the tone changes from solid to broken-record this level in the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTP). Continue to raise the probe up through the product until the tone stops completely-record this level on the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTW). Then go to step 8.
7. **When no product is present or suspected:** If no free product is present, record the depth of the water (to the nearest 0.01 foot) relative to the painted black mark on the top of the well casing. Leave the probe in the well just a hair above the water level to ensure the well as equilibrated. As the well rises, the tone will sound. Make sure no increase in water levels have occurred in over a ten-minute period. Water levels can lower as well as rise. Make sure you note when the level you keep lowering the probe to has remained stable for at least ten minutes. Once this has been accomplished, please record this level in the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTW).
8. Turn off the probe, and use the probe to determine the depth to the bottom of the well relative to the top of the well casing. This is the depth to bottom measurement (DTB).
9. Decontaminate probe and tape by washing in an Alconox/Liquinox solution (***read directions on solution for ratio of water to cleanser***) and use the toothbrush provided to remove any foreign substance from the probe and tape. Then triple rinse probe and tape with clean water and then proceed to take measurements in the next well.
10. If sampling is to occur, proceed to implement SounPacific's Standard Operating Procedure for Monitoring Well Purging and Sampling. If no sampling is to be performed, close and secure all wells and caps.

Appendix C

GAUGING DATA/PURGE CALCULATIONS

Job Site: 803T Old OfficeJob No.: SP-500Event: 13th QuarterlyDate: 7-21-05

SounPacific
Environmental Services
(707) 269-0884

WELL NO.	DIA. (in.)	DTB (ft.)	DTW (ft.)	ST (ft.)	CV (gal.)	PV (gal.)	SPL (ft.)	Boiler Lends	Notes
MW-1	2	14.40	5.75	8.65	1.38	4.14	-	-	faint odor
MW-2	2	14.28	5.40	8.88	1.42	4.26	-	-	Odor Replaced 2" cap
MW-3	2	14.43	5.94	8.49	1.36	4.08	-	-	Odor

Explanation:

DIA. = Well Diameter

DTB = Depth to Bottom

DTW = Depth to Water

ST = Saturated Thickness (DTB-DTW)

CV = Casing Volume (ST x cf)

PV = Purge Volume (standard 3 x CV,
well development 10 x CV)

SPL = Thickness of Separate Phase Liquid

Conversion Factors (cf):

2 in. dia. well of = 0.16 gal./ft.

4 in. dia. well of = 0.65 gal./ft.

6 in. dia. well of = 1.44 gal./ft.

Sampler:

Jeff Guinos

50 feet
12/21/05
RECEIVED

Well Gauging/Sampling Report

Sheet 1 of 3

Date: 7-21-05 Project Name: BOBT old office Project No: SP-500 Well Number: MW-1

Analyses Tested: BTEX, 5 oxyS, TPHs

Sample Containers: (3) HCl VOA's

Purge Technique: ☒ Bailer ☐ Pump
Sonder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes
1:29	5.75		No sheen
1:39	5.75		sheen detected
	End		

Field Measurements

Time	Total Vol. Removed (gal)	pH	Temp (F)	Cond. (ms/cm)	DO (mg/L)	DO (%)	
1:49	0	6.72	63.74	.486	2.30	24.1	
1:53	1.38	6.72	61.42	.466	1.28	13.1	
1:57	2.76	6.69	61.15	.461	1.02	10.4	
2:00	4.14	6.62	61.12	.455	.91	9.3	

Field Scientist: Jeff Gaines

Well Gauging/Sampling Report

Sheet 2 of 3

Date: 7-21-05 Project Name: BOBT old office Project No: SP-500 Well Number: MW-2

Analyses Tested: BTEX, 5-OXG's, TPH's

Sample Containers: (3) HCl 10A's

Purge Technique: ☒ Bailor ☐ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes
1:33	5.40		Sheen detected
1:41	5.40		↓
	End		

Field Measurements

Time	Total Vol. Removed (gal)	pH	Temp (F)	Cond. (µs/cm)	DO (mg/L)	DO (%)	
2:04	0	6.77	64.50	.334	.72	7.7	
2:12	1.42	6.79	63.58	.298	.50	5.3	
2:17	2.84	6.82	63.37	.265	.43	4.5	
2:21	4.26	6.82	62.90	.299	.42	4.3	

Field Scientist: Jeff Gaines

Well Gauging/Sampling Report

Sheet 3 of 3

Date: 7-21-05 Project Name: BOBT old Office Project No: SP500 Well Number: MW-3

Analyses Tested: BTEX, S-Oxys, TPHg

Sample Containers: (3) HCl UOA's

Purge Technique: ☒ Bailer ☐ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes
1:37	5.96		Sheen detected
1:45	5.94		↓
	End		

Field Measurements

Time	Total Vol. Removed(gal)	pH	Temp(F)	Cond. (ms/cm)	DO(mg/L)	DO(%)	
2:34	0	6.79	61.40	.548	.39	3.9	
2:45	1.36	6.76	60.81	.622	.50	5.1	
2:50	2.72	6.76	61.25	.498	.47	4.7	
2:56	4.08	6.72	61.17	.524	.45	4.6	

Field Scientist: JJ Cousins